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Department of
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What is Vermicomposting?

What is vermicomposting?

Vermi is the Latin word for worm and ***composting*** is the process of turning organic waste into nutrient rich soil. Therefore, vermicomposting is the process of converting organic waste into nutritive humus ***using worms***. The worms are kept in an enclosed container (called a worm bin, see picture at right) where they are fed kitchen scraps and table food waste.

The worms used for vermicomposting are commonly called red wigglers, redworms or manure worms, but the exact species is ***Eisenia foetida***. One pound of red wigglers will consume a half pound of food per day. These worms are known as surface feeders and live in depths from six to 18 inches, which is why they survive and even thrive in a confined space such as a worm bin. What are commonly thought of as earthworms ***(Lumbricus terrestris)*** are not suitable for vermicomposting because they burrow several feet into the earth, do not like having their habitats disturbed, and live best at lower temperatures.

The product left after the worms digest and eliminate food is called "castings." Worm castings have been called "Black Gold" because they are the most nutrient-rich soil

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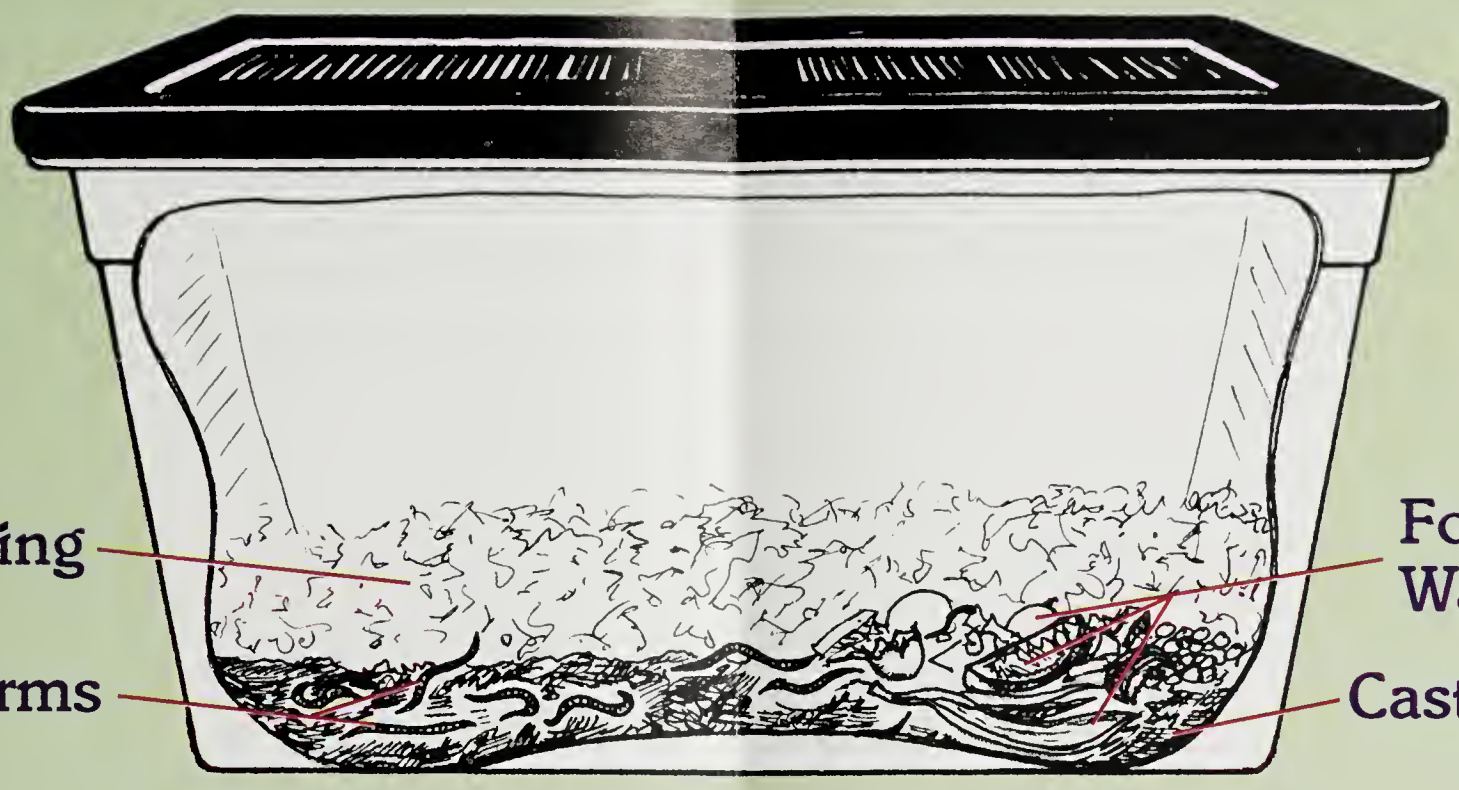
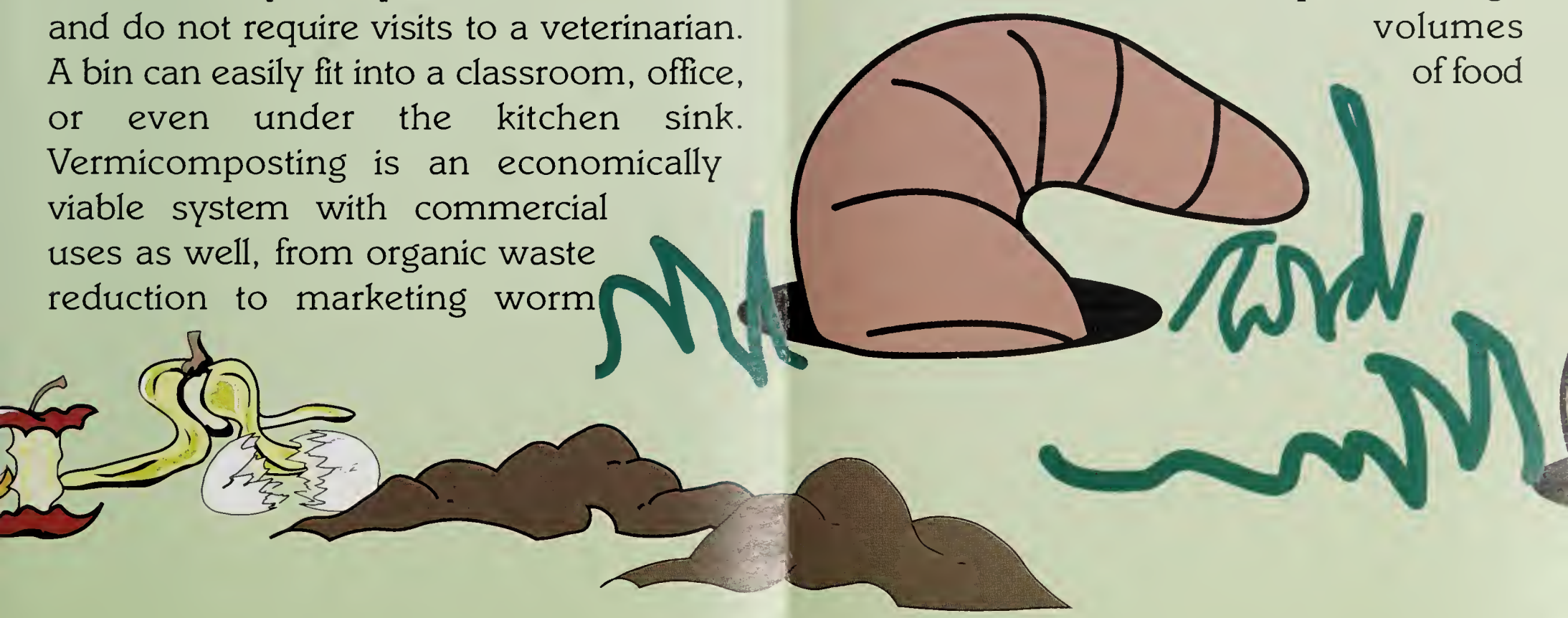
Vermicomposting Worm Bin



amendment on the planet. Castings help eliminate certain plant diseases, keep soil aerated, retain moisture in the soil, and act as an excellent organic pesticide.

Red wigglers need air, moisture, food, bedding, and constant 55-85 degrees Fahrenheit to live and work productively. Shredded newspaper, peat, or coir (shredded coconut shell fiber) can be used for bedding. These little wigglers are easy to care for; they are quiet, eat food waste, and do not require visits to a veterinarian. A bin can easily fit into a classroom, office, or even under the kitchen sink. Vermicomposting is an economically viable system with commercial uses as well, from organic waste reduction to marketing worm castings. "Planting" worms in depleted soil for refertilization is a new technology useful to gardeners and farmers.

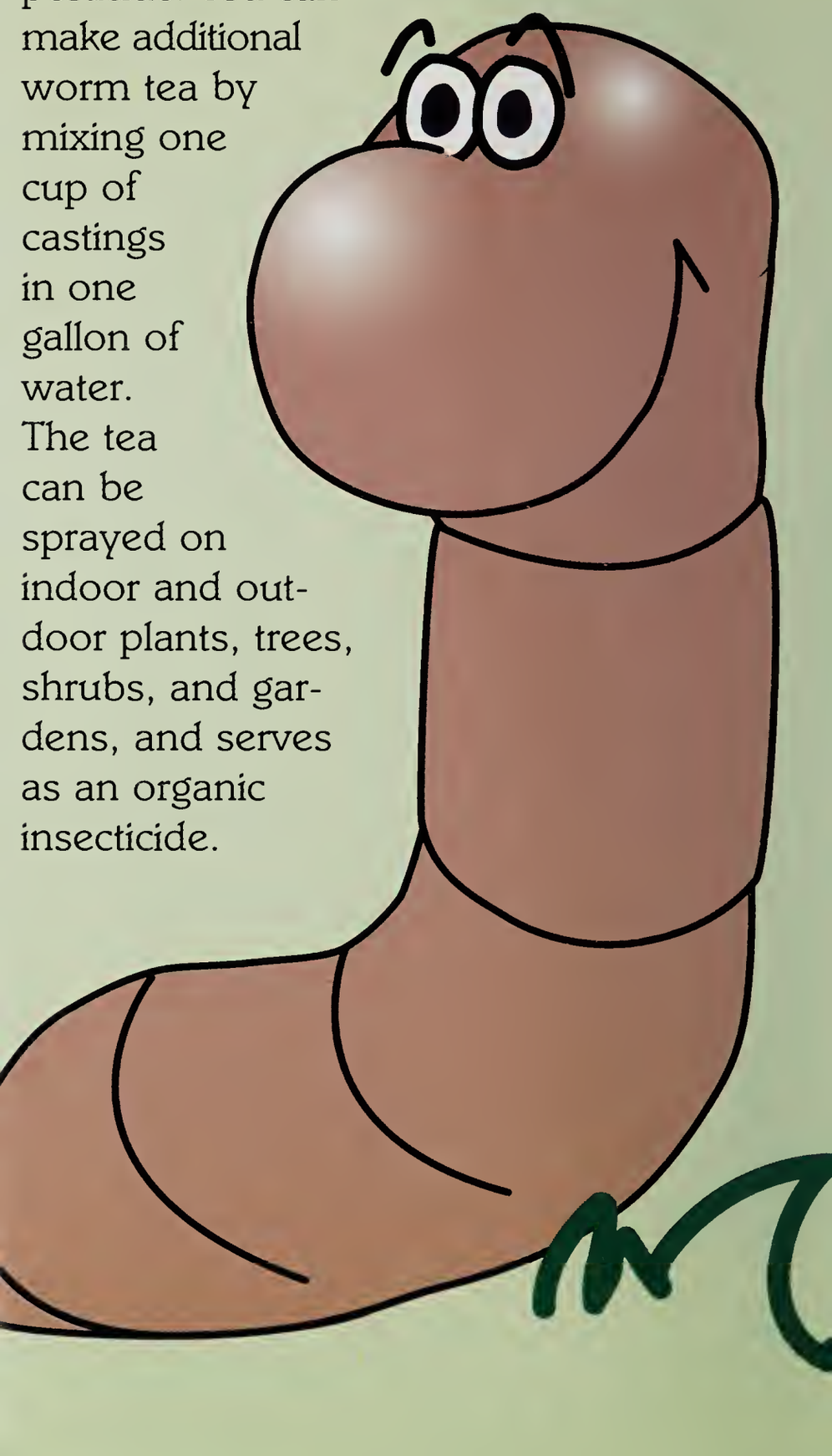
Organic waste (not including paper) makes up 11% to 13% of all material found in landfills and is one of the biggest problems facing the solid waste industry today. This organic waste can be efficiently and economically vermicomposted by restaurants, cafeterias, and industries that produce large volumes of food



waste. The castings, a value-added product, can then be used in gardening, landscaping, vinticulture, golf course maintenance, and organic farming, to name a few.

Care for a cup of Worm Tea?

If you are a gardener you will respond with a hearty, "Yes! And make it a big one!" Worm tea is extra liquid that drains from a vermicompost bin and is an excellent fertilizer as well as an organic pesticide. You can make additional worm tea by mixing one cup of castings in one gallon of water. The tea can be sprayed on indoor and outdoor plants, trees, shrubs, and gardens, and serves as an organic insecticide.



Did You Know?

1. Worms have five pairs of hearts, hemoglobin, and a circulatory system much like ours.
2. Worms breathe through their skin by absorbing oxygen through the wet surfaces of their bodies.
3. Worms will eat coffee grounds and the filters!
4. Worms have no teeth, but a gizzard for grinding their food.
5. One pound of red wigglers will eat one half pound of food per day.

Need Worms or castings?

Contact these Illinois worm growers.

Northern Illinois: Castings and worms: Dean Allen at: *mcwormworker@comcast.net*

Central Illinois: For a worm bin or worms by the pound call Doug Lake at 217/942-9233

South Central: Castings and worms: New Horizon Organics, Inc. 618/498-6459, e-mail: *chadhurley@hotmail.com*

Resources:

Two excellent books about raising worms are:

Worms Eat My Garbage
by Mary Appelhof.
www.wormwoman.com

Recycle With Earthworms: The Red Wiggler Connection
by Shelly Grossman and Toby Weitzel.
ISBN 0-914116-32-0

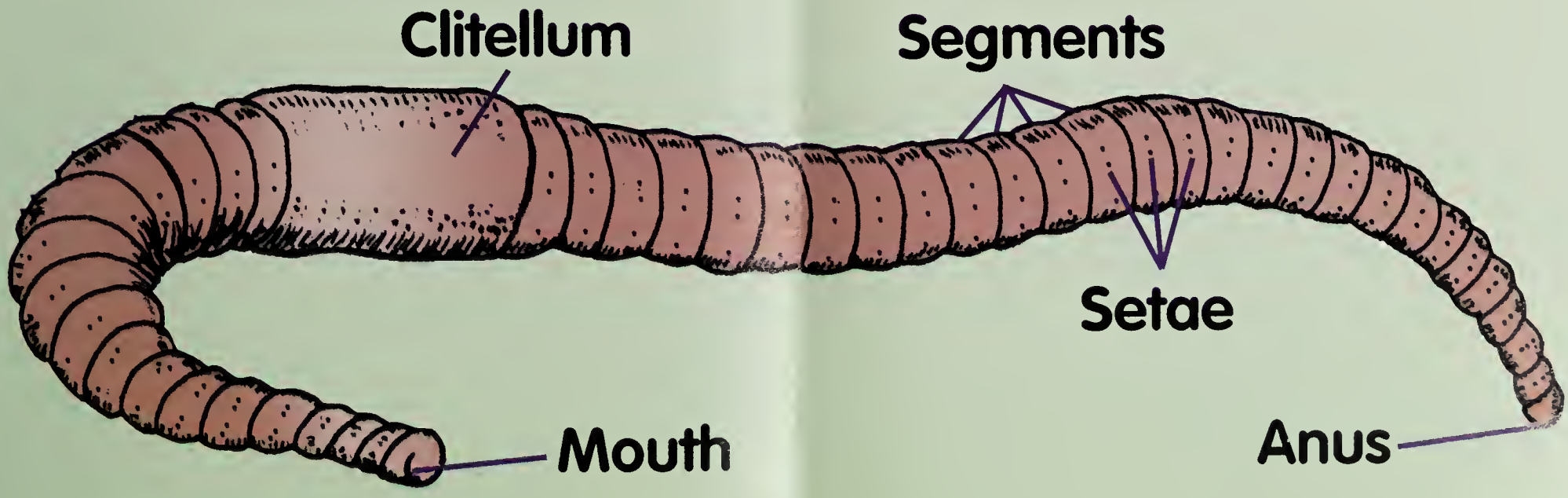
Illinois Department of Commerce and Economic Opportunity, Illinois sustainable Education Project (ISTEP) - ***www.istep.org***

California Integrated Waste Management Board - ***www.ciwmb.ca.gov/vermi/***

Urbana Extension, University of Illinois at Urbana-Champaign - ***www.urbanext.uiuc.edu/worms***

There are so many **worm web sites** it's impossible to list them all. Just go to a search engine and type in vermicomposting. The available information is amazing!

Anatomy of a Worm



Want more information about vermicomposting?

Contact Brett Ivers at the Illinois Department of Commerce and Economic Opportunity, Bureau of Energy and Recycling, 620 E. Adams, Springfield, IL 62701.
Call 217/524-5859 or e-mail at:
brett_ivers@commerce.state.il.us

ATTENTION TEACHERS!

Ask about the ***Eeek! There's A Worm In My Room,*** educational case. This case contains videos, books, and lesson plans for educators who are interested in starting a vermicomposting bin. The case may be kept for two weeks and is free!

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